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ELECTRICAL WORLD

News Issue

APRIL 17, 1948

A McGRAW-HILL PUBLICATION

John E. S. Thorpe, Who Has Been Elected President of the Southeaste

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How soon will you have a SHORTAGE OF SALES...

...instead of a shortage of capacity?

It is difficult to believe that the present shortage of capacity could soon turn into a need for power sales. It is wise to be prepared to sell when the right time comes, and thorough preparation for effective selling takes time.

Consider the preparation required to sell the transit load. For twenty-five years many utility companies, transit companies, city officials, and the general public were "sold" on the idea that local transportation service should be rendered principally by motor buses. As a result, thousands of these isolated power plants have been misapplied—installed on lines where electric trolley coaches or modern street cars could have given better service at lower cost.

Electric service for the 13,500 electric vehicles needed, at $26,250 each, is $354 million dollars! But more important, improved transit with electric vehicles protects the billions of utility revenue which originates in cities: transit helps to preserve the integrated character of the city because it makes the city a better place to live.

It will take a long time to bring the benefits of electric transit to the attention of thousands of transit executives, city officials, and the general public. So why not start right now?

HOW TO HOLD AND THEN EXPAND THE TRANSIT LOAD

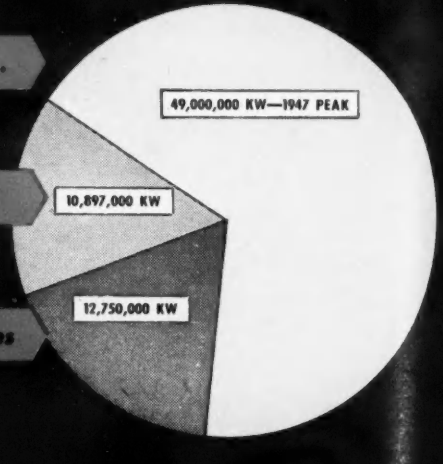
- **Seriously consider a transit specialist to study transit service in your area.**
- **Determine where electric transit should be used. (Electrics for lines with peak headways of 10 minutes or less, and where peak traffic on a given line is 400 passengers per hour or more past a given point.)**
- **Co-operate with your G-E representative in presenting the benefits of electrics to the transit company and the community.**
- **See and use LIFESTREAM OF THE CITY, the More Power to America movie that shows how electrics reduce traffic congestion, give better service at lower cost.**

12,750,000 KW NEEDED TO KEEP NEW CAPACITY BUSY IN 1952?

IF peak loads should remain about the same as in 1947...

AND allowance of 15% is made for reserve capacity...

12,750,000 kw of capacity may have to be kept busy with new power sales



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NEWS
OF THE ELECTRICAL WORLD

The Electrical Week

Last week was industry's meeting week. Associations in all sections met to discuss the industry's future. Everywhere speakers indicated that it was an optimistic one . . . At Boca Raton, Fla., Southeastern Electric Exchange members were told that the privately owned utility industry can handle the loads of the future . . . In Chicago, engineers at the Midwest Power Conference learned that Europe's five-year plan of power development exceeds even the United States program. However, it is more likely to take seven to nine years . . . At Kansas City, engineers of the MVEA discussed the effects of growing load demands . . . In Chicago, Charles E. Wilson, GE president, warned the EEI sales meeting that the present "abnormal demand" is normal because it won't fall off . . . And in Washington, NRECA announced an insurance and retirement benefits program for its co-op members.

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The British government took over all electric utilities on April 1. One of the first items on the agenda of the new British Electricity Authority is a rate increase. The reasons are higher costs of labor, coal, and materials.

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Helicopter patrolling of transmission lines has brought up another problem for utilities. A farmer near Vestal, N. Y., has been jailed for putting 11 bullet holes in a helicopter surveying a line for the New York State Electric & Gas.

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The State Department would like private investors to put $5 billion into Latin American industries to get the U. S. badly needed raw materials. Americans are leery of such ventures. Whenever the Latins start nationalizing the properties or taxing them out of business, Americans get no support from the SD. It preaches "good will."

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Forced by the coal strike to start digging into their stock piles, Midwest utilities early this week encountered operating difficulties. Heavy rains had soaked the coal piles. Some plants were even forced to curtail output.

Seattle City Light's disputed increase of electric house heating rates to 1.8 cents with Council permission, has stirred a fight which threatens a special election to set a lower rate. City Light officials threaten a prompt law suit, if the election is held, to see whether rates may be set thus.

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Employers' age restrictions are partially responsible for existing unemployment, New York State's Industrial Commissioner reports. He finds jobs unfilled despite pools of unemployed. He blames, along with age restrictions, the lack of specialized skills among those of desirable age.

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Westinghouse Electric will resume making left-hand door refrigerators next month. Since the war all models have had right-hand doors.

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Utility men visiting Washington talk increasingly of possibilities for renewal of some wartime controls exercised by WPB. None wants any government interference with equipment manufacturers' order boards, but more than half admit they would like to see some restoration of raw material allocations. They'd especially like to see more steel channeled into production of generating equipment.

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Use of electricity has divided the Amish Church in Pennsylvania. A "modernist" faction now permits its members to use electricity for lighting but not for power. "Fundamentalists" just won't use it.

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Dick Tracy may be comic to some people but not to the Kansas City Power & Light. Since Mrs Volts made her appearance, the utility has had an epidemic of materials thefts from its store rooms. Like Mrs Volts, the thieves take reels of copper wire and sell it for scrap.

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A shortage of engineers is retarding the manufacture of electrical equipment. Not only are engineers in short supply, but also 23% of those currently employed are on government projects.

PRESIDENTS ALL are these men in the top panel: C. B. McManus, left, Georgia Power Co; J. E. S. Thorpe, Nantahala Power & Light Co; A. W. Higgins, Florida Power Corp; and W. C. Johnson, NEMA. In the bottom panel are T. A. Burdeshaw, left, sales manager, Southern States Equipment Co; E. L. Godshalk, president, South Carolina Power Co; R. J. Throckmorton, vice-president, Virginia Electric & Power Co; and W. H. Burleson, manager, Power Utilities Department, Ohio Brass Co

Southeastern Exchange Members Optimistic about Industry Future

OPTIMISM ON THE ability of the privately owned utility industry to plan adequately for future electric power requirements was voiced at the annual conference of the Southeastern Electric Exchange at Boca Raton, Fla., last week.

The tempo of the meeting was one for aggressive action to speed expansion and financing programs to meet the growing demands for greater use of electric power. Opinion was that this growth over the next decade or so would double present operations.

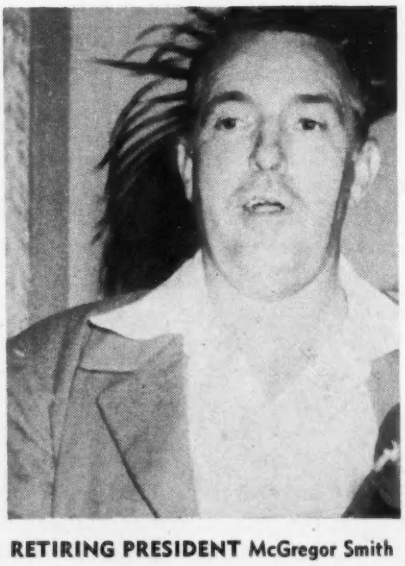
John E. S. Thorpe, president of the Nantahala Power & Light Co, was elected president of the Exchange to succeed McGregor Smith, president of Florida Power & Light Co.

Other officers elected were S. C. McMeekin, president of South Carolina Electric & Gas Co, as first vice-president; W. O. Turner, president of Louisiana Power & Light Co, as second vice-president; and C. B. McManus, president of Georgia Power Co, as third vice-president.

President Smith gave answer to the recent expression of President Truman that an adequate electric power supply was of strategic importance. Mr. Smith pointed out that utilities are more ready today to meet power demands than at the time of the Pearl Harbor attack.

Smith declared that the Southeastern utilities increased power generation by 77% and generating capacity by 40% from 1940 to 1947, as compared with 76% and 24%, respectively, for the country as a whole. By 1951, the Southeastern utilities will have increased capacity by 95% over 1940.

In discussing the economic outlook of the South, John A. Sibley, chairman of the Trust Co of Georgia, traced events which have led to the present industrialization program on a vast scale. With an abundance of natural resources, favorable climate, and a large available labor force, the South stands to lead the nation in industrial expansion.



RETIRING PRESIDENT McGregor Smith

Charles E. Oakes, president of the Edison Electric Institute, pointed out that over the next four years the utility industry must raise $3.9 billion in new capital from the investing public to finance the $6-billion construction and expansion program. He said that the utilities must raise one-seventh of all financing required by industry as a whole.

To meet some of the financing programs, George D. Woods, chairman of the First Boston Corp, suggested selling securities on the installment plan, perhaps by payroll deductions. He indicated the need to raise funds through the sale of common stock.

W. C. Johnson, executive vice-president of Allis-Chalmers Manufacturing Co and president of the National Electrical Manufacturers Association, traced the past strike at his plant. He discussed the disturbances created by the Communists in which 11,600 production workers were thrown out of work. Much of what is contained in the Taft-Hartley Act to circumscribe Communistic activities in labor unions was developed, he claimed, out of experiences of his company in 1946 and 1947.

Industry was urged by Johnson to use all the protective provisions of the law and to strive to abolish industry-wide bargaining. He said that collective bargaining should be kept on a local basis.

L. E. Osborne, executive vice-president of Westinghouse Electric Corp, urged coordinated efforts to eliminate present confusion in regards to industry and the national economy which has been born of propaganda and lack of understanding. He said that the answer to increased productivity is lower-cost designs, better tools, more horsepower, and more modern machines that will produce more per hour.

J. W. McAfee, president of Union Electric Co of Missouri, urged that utilities keep the public well informed on operations and policies. The belief that with good service at reasonable rates public relations will "take care of itself" has resulted in an uninformed public.

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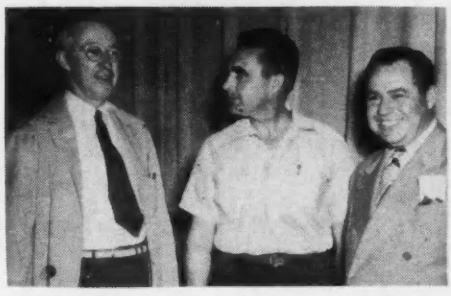
D. W. Atwater Dies

DeNyse W. Atwater, manager of the commercial engineering department of the Westinghouse Electric Corp, Bloomfield, N. J., died on Apr 13 at his home in Short Hills, N. J. He was 53 years old. Mr Atwater was a past-president of the Illuminating Engineering Society.



SOUTHEASTERN ELECTRIC EXCHANGE meeting at Boca Raton, Fla., attracted: Left panel, S. Paul Vecker, vice-president, Carolina Power & Light Co; and Wade M. Gallant, Westinghouse Electric Corp. Center panel, W. P. Hammond, vice-president in charge of engineering, Georgia Power Co; Harry Dever, Copperweld Steel Co; and George A. Grimm, vice-president, Florida Power Corp. Right panel, Les Taylor, vice-president, Mississippi Power & Light Co; and Ralph H. Flynn, "Electrical World" publisher

Engineering Progress Discussed at Midwest Conference in Chicago

EUROPE'S AMBITIOUS five-year plan of power development exceeds even the USA program, but it is more likely to take 7 to 9 years. This is what Walker L. Cisler, executive vice-president, Detroit Edison Co, told the Midwest Power Conference in Chicago last week. About 1,500 engineers attended the three-day sessions.

The 16 nations plan 21,445,000 kw on their own and the international plan under ERP calls for 2,306,000 kw more. Our stake totals some $500,000,000 for both projects. This represents our contributions to outposts eager to build their industrial security in emulation of the nation which has made the world power-conscious.

In Japan, according to E. J. Burger, vice-president, Ohio Public Service Co the rehabilitation of the systems is seriously delayed by the uncertainty as to which plants will be commandeered for reparations.

Far better in the public interest than complete government operation is the development of the Southwest Power Administration's program of flood control and power development. Under this program the natural peaking output would be delivered to the utilities of the area for distribution. This was the stand of Edwin Vennard, vice-president, Middle West Service Co. He fortified it by the assertions it would save public funds, preserve private enterprise, and guard against defeat of the flood control objective by zeal of government operators to force output when floods are imminent.

Industry's trek continues westward and communities under 50,000 are getting nearly half the new industrial plants. One-third of the total in 1947 came to the eight central states, said John M. Drabelle, chief engineer, Iowa Electric Light & Power Co. He added the corporations favor the states without income taxes (personal or corporate) 2½ to 1.

Oil and gas reserves of the U. S. constitute only 2.5% of our aggregate fuel resources, certainly not over 5%, said John Van Brunt, vice-president of Combustion Engineering Co. He added that resort to coal for synthetic motor fuels could readily consume 700,000,000 tons and shorten the life of the coal era to 400 years. Mechanization of the mines will almost assuredly lower the quality of power coal but power plant equipment capability will keep step, he promised.

Partial gasification of all electric utility coal, leaving char enough to meet power requirements, would supply 20% of the nation's natural gas demands, said A. D. Singh, president, Singh Co. Fluidization would produce 40,000,000 bbl of synthetic liquid fuels.

Some of man's largest reservoirs are doomed to serious impairment in usefulness because of the stream-borne sediment that will inevitably fill them. In support of this assertion, Prof M. C. Boyer (State University of Iowa) tabulated the data for our central rivers. The remedy for silt erosion and accumulation in condensing systems may be some appropriate form of skimming dam. At the Loup River and Moline hydro developments periodic removal is indicated.

Alternator excitation requirements and equipments were discussed by Prof W. A. Lewis, Illinois Institute, and C. Lynn, Westinghouse Electric Corp, in terms of alternatives to the conventional shaft-driven scheme. Whether the electronic or rotating forms will supplant it was deemed in process of solution by Lewis. Recent operation of a two-stage 210-kw Rototrol with amplification of 15,000,000 to 1 was cited by Lynn as offering excitation and regulation with the rotor as the only moving part.

Extra-Highspeed Breakers Needed

Fault currents on 600-v, d-c systems may present rates of rise as high as 3 or even 5 million amperes per 1000 kw and therefore require extra-high-speed circuit breakers. This was the report of William Deans, chief engineer, I-T-E Circuit Breaker Co. He detailed a procedure for orderly computation for any given system.

Study of the pattern of rural distribution systems to meet the loads of 1957 is imperative, said Grover C. Neff, president of Wisconsin Power & Light Co. Analysis of 2,200 of his farm customers resulted in a use of 5,680 kwhr in 7 years. Size of dairy farms is coming to be fixed by the time the farmer has left for chores after caring for his cows.

Heat pump application relying upon ground-water as the source does not seem feasible in the Chicago area, according to M. S. Oldacre, Utilities Research Commission, because the movement is as slow as 100 ft per yr. The earth itself seems the more practical source.

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Load Demands and Their Effects Discussed by MVEA Engineers

PROBLEMS RESULTING from unprecedented load demands held the attention of more than 500 utility men last week at the annual Engineering Conference of the Missouri Valley Electric Association at Kansas City. Effects upon equipment, operating techniques, changes in design, and strengthening of facilities to serve that demand were discussed at the 3-day conference.

R. W. McClure, Kansas Electric Power Co, Association president, set the conference theme by stating that 1948 and 1949 capacity-wise will be the tightest in the industry's history. Not only will leads increase in magnitude, but costs to serve will also. Added labor and fuel costs "make it mandatory that we as engineers provide the most economical, sound construction and operation of any period in our history."

More Additions Needed

Henry J. Johnson, director of commercial activities, United Light & Railways Service Co, Davenport, Iowa, stated, "There are indications that the present projected rate of generator capacity additions may not be sufficiently large." If the growth in the next 25 years is only two-thirds that of the past 25 (14,200,000 to 50,303,000 kw or approximately 300%), 1972 will find the industry with more than 100,000,000 kw installed.

While capacity increased 300%, kilowatt-hour sales rose more than 600%, Johnson added. If this rate continues, the industry can expect a 1,000 billion kilowatt-hour year within the next 25. This would necessitate many redesigned and rebuilt distribution systems and a strengthening of transmission facilities to service adequately loads of that magnitude.

Interpreting what some of the appliances mean load-wise, Johnson stated home freezers have doubled the load potential of conventional refrigerators. Television load, now approximately 110,000 kw will undoubtedly double this year. The heat pump may eventually increase residential consumption to 700% that of the present rate. Revenue from electric blankets may soon equal that derived from present refrigeration load.

Joseph L. Barker, Oklahoma Gas & Electric Co, while discussing large capacity service buses for secondary network systems stated that when considering bus capacities exceeding 3,000 amp, factors such as proximity effect, skin effect, inductive heating, and conductor arrangement must be given special consideration. In installing current limiters on underground networks careful consideration must be given to the time-current characteristics, Julian Rogoff, Burndy Engineering Co, stated.

Raymond Judd, Iowa-Illinois Gas & Electric Co, in describing design and construction of the new 161-kv Davenport-Kansas City transmission line stated that in future projects right-of-way purchases would be on the basis of market land values.

While comparing series and multiple street lighting systems, Ralph E. Thornton, OG&E, stated his company "concluded that it was desirable to use a multiple system in preference to a series system where costs are comparable, or perhaps pay a premium in cost in individual cases where one is justified in view of the many advantages gained."

In making a comparison between flat construction and elevated shield wire line operation, Frank W. Shaw, Kansas City Power & Light Co, said that operating results "show the addition of the overhead shield wire with suspension insulators makes a line which is far superior to the pin-type insulator without shield wire protection."

Trend in Turbine Pressures

E. H. Horstman, Allis-Chalmers Manufacturing Co, stated "the apparent slackening in the trend toward higher (steam turbine) pressures is due not only to the limitations in materials but also to the fact that the possible gain in in cycle efficiency is becoming smaller while the cost of the installation increases." Future steam conditions will be influenced by both the economics and availability of suitable materials. If both of these are favorable and if the trend experienced in the past 30 years continues, steam conditions during the next 10-year period may be expected to reach 2,000 psi and 1,150 deg F.

Periodic testing of electric timing devices used in metering equipment and the establishment of minimum standards of timer performance have brought a sharp reduction in the failure of interval timers on the Kansas Gas & Electric Co system according to A. E. Sabin.

Traveling Meter Shop Described

E. N. Mitchell described a traveling meter shop used by West Texas Utilities for the periodic testing of watthour meters by the change-out method. Operated by a crew of seven the traveling shop is set up at key system points to test meters in a 20-mile radius. The crew can test 69 meters a day at an average labor cost of 54 cents each.

Mechanical aids to street light construction described by Leon Boyce, KCP&L, have been instrumental in cutting the cost of street light base construction from 15.15 to 11.46 manhours. Similar savings have also been made in trenching, auguring, and concrete-cutting operations.

The design frequency of 10,000 cycles used for the new Iowa State College a-c calculating board has several advantages over 440 and 480 cycle frequencies more commonly used. Drs W. B. Boast and J. D. Ryder listed them as follows: (1) Allowed the use of radio parts and components in design at about 1/7 the usual cost, (2) made electronic metering possible and so reduced instrument burden, (3) permitted use of direct phase-angle metering, and (4) allowed elimination of iron cores in inductive reactors.

AT MVEA Engineering Conference, Chairman E. F. M. Miller, left, President R. W. McClure, and C. A. Scarlott, editor, "Westinghouse Engineer"

EEI SALES MEETING brought together J. M. Stedman, left, Pennsylvania Power & Light Co; J. F. Burt, Western Massachusetts Electric Co; T. O. McQuiston, Duquesne Light Co; Harry E. Warren, Ralph H. Jones Co; and H. H. Brenan, PP&L

Wilson of GE Tells Utilities to Keep Expanding as Demand Will Not Fall

"IT SEEMS TO ME utterly foolish and vicious for any man in our business to ascribe his present troubles to 'abnormal demand' and to imply that this demand will fall off." In these words, Charles E. Wilson, General Electric Co president, expressed his belief that relief from the present tight capacity situation can come only from complete carrying out of expansion plans. His audience was the 900 utility and other electrical industry representatives at the annual EEI sales meeting last week in Chicago.

In reference to General Electric, Wilson said:

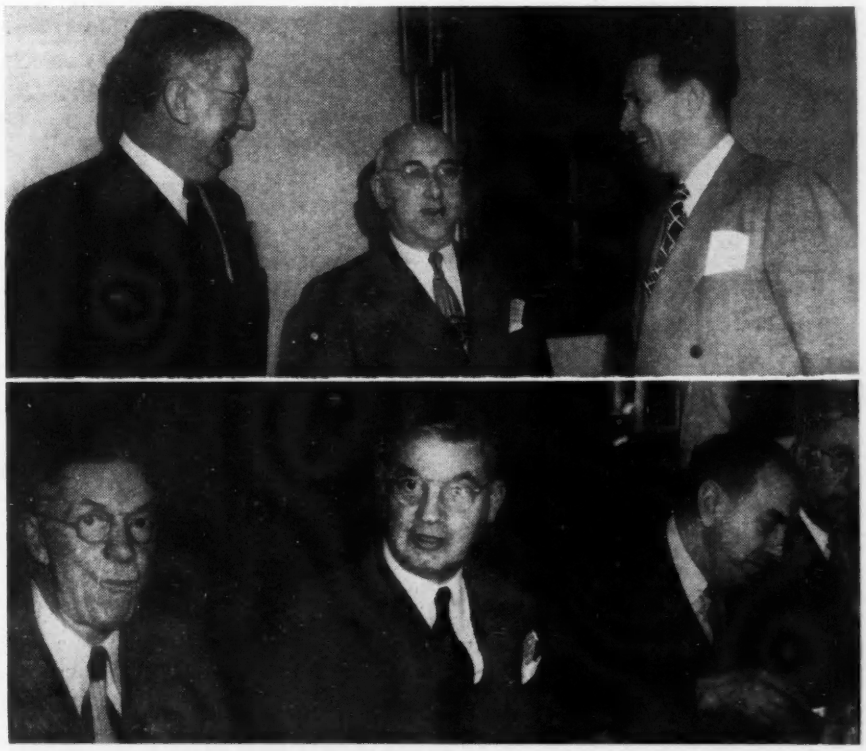
"We will not accept the view that promotion of the use of electric power must depend on the availability of excess generating capacity. The pioneers did not build the business that way, and this is not the time to start. We feel strongly that utility companies should have the courage to continue their planned expansion, even in the face of a recession, or of higher money rates, or any similar deterrent that might appear".

The biggest challenge ever faced by any industry is presented by those expansion plans of the utilities, said Charles E. Oakes, EEI president, in an address earlier in the meeting. He emphasized the necessity for sales performance that will result in mounting revenues year after year to earn return on the vastly enlarged investment in electricity supply facilities. The utilities must show net added earnings available to stockholders of from $150 to $200 million annually, he asserted. It takes time to plan and organize sales programs. And the utilities had better be about the job.

A further responsibility laid upon sales enterprise of utilities was stated by Walker L. Cisler, Detroit Edison Co. We must have power to meet all peace-time requirements and, in addition, a defense reserve for any national emergency. Unless management takes a strong and active sales attitude this additional capacity might become a burden. Selling must find peace-time utilization of this capacity that will not impair its emergency availability.

In its employees the electrical industry has a potential million salesmen who are not being used. This was the theme of N. J. MacDonald, Thomas & Betts, in his talk on industry interdependence. Employees can be turned into effective salesmen by showing them that their jobs, their earning power, their security, depend on building the market for the goods they produce. He told how the employees of his company were made conscious of the fact that every time a non-electric appliance was installed in their homes every one in the electrical industry, including themselves, loses.

The urgency of the sales job confronting the utilities was stressed by Ralph P. Wagner, EEI commercial



HAROLD S. METCALFE, president of the Public Utilities Advertising Association, is flanked on his right by E. C. Easter, Alabama Power Co, and on his left by James Coatsworth, EEI. At the Farm Section luncheon, bottom panel, left to right, are Frank Watts, chairman, National Farm Electrification Conference; Charles E. Oakes, EEI president; and Allan B. Kline, president, American Farm Bureau Federation

chairman. Natural growth can not be relied upon to provide adequate return on the immense additional investment in new plant now being made. The only safe reliance must be on real sales ability and hard work.

Outstanding in the program was a dramatization of the utility sales manager's responsibility, presented with really professional timing and finish. "Mr. Jones," sales manager, was indicted for failure to perform his duties or to use to full advantage the promotional programs available to him. Witness after witness, aggrieved customers kept from enjoying the benefits of modern electric service, accused Jones of being a bottleneck in the community. Jones defense of "power shortage" received short shrift from the judge who pointed out the imperative necessity of planning and preparation to utilize new generating capacity now being installed.

Electrification has not as yet had any appreciable effect on principal farm machines and tools used in crop production, said J. O. Christianson, University of Minnesota. Most of the electrical equipment so far carried to the farm is to be found in the home, some in the barn. Thus there remains a vast field for the expansion of farm electrification.

The "package mortgage", by means of which electric appliances can be included in the cost of a home was described by Horace Russel, U. S. Savings & Loan League. More than $6 billion have been made available under this plan for the financing of veterans' homes. Architects and builders should be educated and induced to produce complete, fully equipped homes and offer them as "packages".

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EEI Contest Winners Announced at Chicago

Twenty winners in various contests held under the sponsorship of the Edison Electric Institute were announced at the EEI sales meeting last week at Chicago.

The winners were as follows:

Hughes Electric Cooking Awards—All-electric kitchen promotion: first, Philadelphia Electric Co; second, Georgia Power Co; third, Indiana Service Corp. Electric range promotion: first, Florida Power Corp; second, Gulf States Utilities Corp. Commercial cooking: first, Wisconsin Electric Power Co; second, Birmingham Electric Co; third, Union Electric Co of Missouri.

Laura McCall Awards—Division A: Miss Leonora O'Neal, Gulf States Utilities Co. Division B: Mrs. Ruth T. Neill, Kingsport Utilities, Inc. Division C: Miss Vivian Marshall, New Orleans Public Service, Inc; Miss Virginia Thabet, Appalachian Electric Power Co; and Miss Suzanne Wofford, Mississippi Power & Light Co.

Augustus D. Curtis Commercial Lighting Awards—First, Norman Tindall, Duke Power Co; second, D. E. Romberger, Luzerne County Gas & Electric Corp; third, Lucian T. Kight, Duquesne Light Co; fourth, Frank O. Evans, Indianapolis Power & Light Co.

Thomas W. Martin Farm Electrification Award—Alabama Power Co. Honorable mention went to Texas Power & Light Co and Pacific Gas & Electric Co.

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Hungry Horse Dam Gets Power Over BPA Line

The Bonneville Power Administration has completed energization of its 115-kv line from Kerr Dam to the site of the Hungry Horse Dam, under construction by the Bureau of Reclamation on the south fork of Flathead River in northwestern Montana. Power carried over the new line will be used in construction work at the dam.

For the present the line will transmit power from the Montana Power Co's plant at Kerr Dam and later will be used to carry power from Hungry Horse to the lower Flathead valley.

When completed, Hungry Horse will have an output of 300,000 kw from four generators, which will be tied in with the main high voltage transmission system of BPA through a 230-kv line from the dam to Spokane, Wash.

Behind the dam will be storage space for 2,980,000 acre ft of water, to be used to regulate flow in the Columbia.

Oklahoma Gas & Electric Will Install Gas Turbine

First gas turbine to go into utility service in this country will be a 4,000 kw, 6,700 rpm, gas-fired unit. It is scheduled to go into operation at Huey station of the Oklahoma Gas & Electric Co in Oklahoma City in the summer of 1949. These plans were revealed to ELECTRICAL WORLD last week in Kansas City.

The gas turbine is to be coupled to a 3,600-rpm generator through a gear reducer. Output of the unit will feed into the transmission system. Exhaust heat from the gas turbine will be used for supplementary boiler feedwater heating and will so increase the capacity of existing boilers.

Expectation is that the installation will increase station output about 6,000 kw. Of this amount, 4,000 kw will go directly into the company's transmission system. The remaining 2,000 kw will be obtained through the extra boiler capacity that will become available.

Engineering of the installation is to be done by the Pioneer Engineering & Service Co, Chicago, formerly the Public Utility Engineering & Service Co. The gas turbine is being supplied by the General Electric Co.

California Ends Rationing; Daylight Saving Retained

Power rationing in California was ended on Monday, Apr 12.

In making the announcement, Robert P. O'Brien, emergency power director, said a survey of rainfall and snowpack had resulted in a decision to remove all mandatory curtailment measures. Besides the above-normal precipitation which has come to the northern and central portions of the state, O'Brien said new generating facilities and interconnections with Southern California system had helped to relieve the situation.

Although all cuts in power consumption have been removed, O'Brien called for voluntary conservation until June 1, when the situation will again be surveyed. He stressed the possibility that warm rains might melt the snowpack or that generating facilities might fail and restore the need for controls.

Daylight Saving Time was given much credit for relieving the power load and will remain in effect.

O'Brien's staff and local conservation committees will continue to exist, mainly to screen new requests for power. The local bodies will be authorized to approve connections calling for less than 100 kw. Applications for over that amount will be forwarded to O'Brien.

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Named for Kentucky PSC

Circuit Judge Robert M. Coleman has become the third member of the Kentucky Public Service Commission. He is a Democrat. The other two members are Republicans.

NRECA Establishes Retirement and Security Program for Co-ops

EMPLOYEES OF MORE than 180 rural electrical power systems now are covered by the National Rural Electric Cooperative Association's retirement and security program, NRECA officials announced this week. Agreements with underwriters of the program became binding Apr 15 when more than 25% of NRECA's 700-odd member systems had signed up.

As far as member co-ops and their employees are concerned, the program actually became effective last Jan 1, when coverage started for all participating systems. But NRECA had agreed with the John Hancock Mutual Life Insurance Co, which will provide the insurance, and Bankers Trust Co of New York, trustee for the retirement funds, to sign up at least a quarter of the Association's operating members by Apr 15. It also was agreed that 75% of the personnel of each participating system would be covered.

100% Coverage Usual

Coverage, in most cases, has been for 100% of system employees, NRECA sources asserted. Secretary-Treasurer Avery C. Moore predicted that "a majority" of NRECA's members will have adopted the program by next Jan 1.

All NRECA member organizations, chiefly federally-financed rural electric cooperatives, are eligible to participate. Co-op employees will pay a portion of the insurance costs, with employers bearing the full expense of retirement features. Initially, at least, NRECA plans to keep the necessary records and make collections without charge.

Rate of Accruement

After an employee has worked for a participating system for three years, retirement benefits accrue at the rate of 20% of the first $600 of annual salary, plus 0.75% for the rest of annual wages. Workers who have been employed five years are eligible for "permanent" insurance, for which they pay 3% on wages over $50 per month. "Temporary" insurance is provided for all employees at a cost of 50 cents per $1,000 until they have worked five years.

Death benefits and retirement funds will vary according to salaries and length of employment. Retirement age is set at 65, with provision for benefits earlier in case of ill health or other cause. Both retirement and insurance policies are transferable if employees shift jobs from one participating system to another.

One objective behind adoption of the program was employee stabilization. Beset by frequent turnover of personnel, rural electric systems, especially members of NRECA, have been discussing pension and insurance plans for several years. Power co-ops in Indiana and in Iowa formed state organizations to provide such programs for their employees. Early last year, at NRECA's annual convention, the membership approved plans for a national program of insurance and pension benefits.

Electric utility companies, in competition for employees with co-op systems in many areas, have held an advantage in this branch of employee relations. Electric utilities lead all other industries in establishing security programs, with 85 to 100% of their employees covered by retirement plans, Moore said.

"Rural electric systems," he added, "were at a great disadvantage in providing these benefits for employees because of the relatively small number of people working for any individual system."

Administration of the plan will be handled by a committee composed of Harry Edmunds, Cedar, Minn; E. J. Stoneman, Platteville, Wis; and Maury A. McWilliams, Prattville, Ala.

February Power Plant Coal Use, 8,222,092 Tons

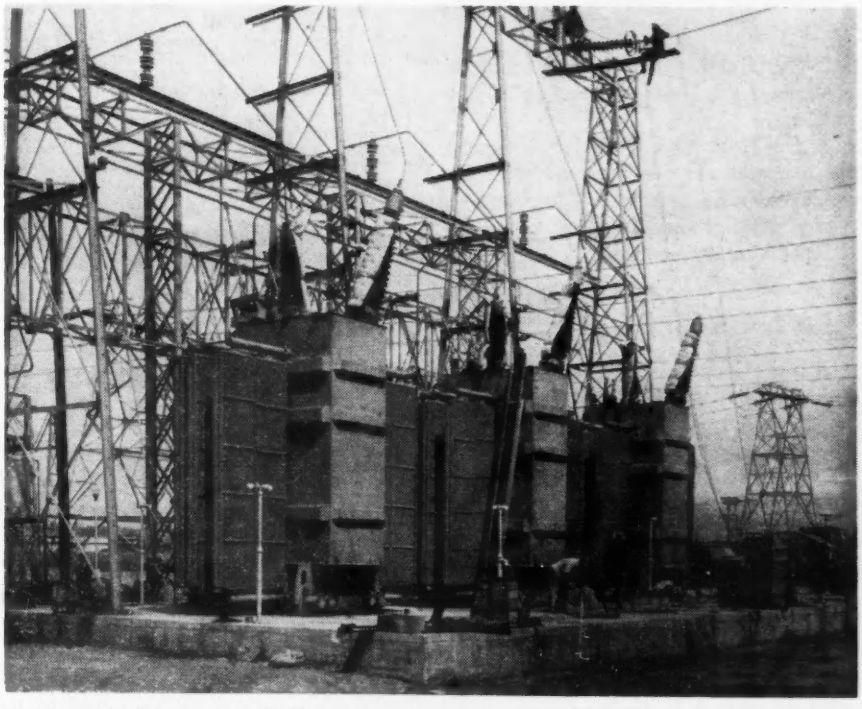
Electric utility power plants consumed 8,222,092 tons of coal during February. This was a 19.5% increase over the 6,879,476 tons consumed in February a year ago.

Stocks of coal on hand at electric utility power plants on Mar 1, totalled 16,889,407 tons. This total was 11.5% more than stocks a year ago. Of the total, bituminous coal comprised 14,868,272 tons, and anthracite 2,021,135 tons. Based upon the February rate of consumption, coal stocks were sufficient to last 60 days.

February coal consumption was 7,904,045 tons of bituminous coal and 318,047 tons of anthracite coal. Gas use was 28,193,633 Mcf, 36.1% greater than in February, 1947. Fuel oil use was 4,002,335 bbl, an increase of 8.3% over February, 1947. Fuel oil stocks on Mar 1 were 6,267,070 bbl sufficient to last 45 days.

New York Utilities Intertie

Consolidated Edison Co of New York and Long Island Lighting Co are now interconnected. A 138-kv underground line between the Jamaica switching station of Con Edison and the Valley Stream substation of Long Island Lighting has been completed.



INSTALLATION of three 25,000-kva transformers is rushed at Southern California Edison's Magunden substation near Bakersfield. The substation is to facilitate delivery of power into the Central California shortage area. The substation was originally built as an interchange facility. However, the transformers were removed when a contract with the Pacific Gas & Electric Co expired

Utilities Have Adequate Coal Stocks for Present

Coal supplies destined for electric and gas utilities were reported nearing their normal flow by midweek as the miners slowly drifted back to work after their four-week strike.

There still was no assurance as to how many miners would return or how long they would continue to dig coal. But electric utilities, at least, were prepared in most cases to weather a considerably longer mine shutdown.

A late check taken by the Federal Power Commission of soft coal stocks held by 115 electric power systems on Apr 8 showed that these utilities had an average supply sufficient to carry them for 49.7 days. One municipal plant was down to a 15-day supply and a midwestern company reported a 19-day supply. On the other hand, one company had a 210-day stockpile of anthracite and bituminous together.

Meanwhile, the Virginia Corporation Commission also deferred its plans for a power rationing program. This decision followed a report that Virginia Electric & Power Co had coal sufficient to last for 22 days.

With the pension issue apparently settled several factors remain which could revive the strike before July 4. Most important of these were

1. Disposition by U. S. District Court Judge T. Alan Goldsborough of contempt charges against Lewis and the UMW for alleged violation of the Apr 3 restraining order to end the strike "forthwith;"

2. Termination of the present miners' contract July 1—or sooner, on 30-day notice;

3. Deadlock of negotiations to make the tentative pension plan the basis for an acceptable permanent agreement. Many details were left undecided by the preliminary accord.

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REA Loan for Plant

Rural Cooperative Power Association, Maple Lake, Minn., has received a $2,340,000 REA loan for the construction of an 11,500-kw steam plant. The plant is to be erected in Anoka County. Part of the loan is to be used for the construction of 30 miles of transmission lines. Rural Cooperative serves five distribution co-ops in the east central section of Minnesota.

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Maine Hydro Shortage Over

The shortage of hydroelectric power in Maine is over. The warm weather has cleared the ice from the rivers. Heavy rains helped.

SEC RULINGS

Texas Electric Service Co was cautioned by the commission in an opinion released recently supporting its Mar 19 order. That order cleared the bond and debenture financing by the utility in the amounts of $5,000,000 each (plus a $1,500,000 cash contribution by Texas Utilities Co, parent). The commission made special comment upon the safeguards necessary for the protection of the purchasers of debentures and the issuer's capital structure when a company resorts to debenture financing. The commission pointed out that "the ratios of bonds and total long-term debt to total capitalization (for Texas Electric) are 53.86% and 62.84%, respectively, leaving for preferred stock and common stock and surplus only 37.16% of total capitalization, of which common stock and surplus constitute 25.92%." It also noted that a provision of the debentures "restricts the payment of cash dividends or the making of any cash distribution to the common stock in excess of 75% of the earnings available therefor in any one year so long as the ratio of total debt to total capitalization exceeds 66 2/3%. In the event that such debt ratio exceeds 75% of the total capitalization the restriction on cash dividends or distributions to the common stock will be 50% of the annual earnings available therefor." Under the circumstances, the commission held that it need not disapprove the issuance of such relatively large amounts of debt in the form of debentures. However, the commission cautioned that "our decision herein is not to be taken as meaning that debenture financing may be resorted to as a matter of course." (Release No. 8059).

Arkansas Power & Light Co, subsidiary of Electric Power & Light Corp, has been authorized to acquire for $1,000,000 cash, the entire 100,000 authorized shares of common stock (no par) of Lake Catherine Corp. That company is being organized to acquire from WAA, for $925,000, an incomplete steam electric generating plant at Jones Mills, Ark. Such purchase is conditioned upon prompt completion of the construction of the steam generating plant by installing therein not less than 80,000 kw of generating capacity, and the sale and delivery of power up to that capacity to the operator of certain pot lines in the aluminum reduction plant at Jones Mills. (Release No. 8099).

Electric Power & Light Corp's committee for the holders of its $7 and $6 preferred stock, headed by Percival Jackson, Robert I. Herzog and C. Perry King, has been permitted to solicit authorization to represent such stockholders in proceedings for the liquidation and dissolution of that company now pending before the commission. The committee will take no part whatever in any consideration of any question wherein there may be a conflict between the said preferred stocks. (Release No. 8095).

MEETINGS

Interstate Power Club of New York—May Meeting, Hotel Martinique, New York, May 17. E. L. Huse, secretary, Jersey Central Power & Light Co, Asbury Park, N. J.

Pacific Coast Electrical Association—Annual Meeting, Fairmont Hotel, San Francisco, June 16-18. George C. Tenney, chairman, McGraw-Hill Publishing Co, 68 Post St, San Francisco 4, Calif.

Pennsylvania Electric Association—Transmission & Distribution Committee, Irem Temple Country Club, Dallas, Pa., May 20-21. C. C. Farrell, chairman, Philadelphia Electric Co, 900 Sansom St, Philadelphia 5, Pa.

PREVIOUSLY LISTED

Edison Electric Institute—Purchasing and Stores Committee, Hotel Cleveland, Cleveland, April 19-21; Engineering Committees, Edgewater Beach Hotel, Chicago, May 3-5; Annual Convention, Hotel Traymore, Atlantic City, June 1-3.

Southeastern School Lighting Institute—Suwannee Hotel, St. Petersburg, Fla., April 19-21; Exhibit, Mirror Lake Junior High School, St. Petersburg, Fla., April 19-May 15.

Rocky Mountain Electrical League—Spring Conference, La Fonda Hotel, Santa Fe, N. M., April 22-23.

American Institute of Electrical Engineers—North Eastern District Meeting, Taft Hotel, New Haven, Conn., April 28-30; Summer General Meeting, Palace of Fine Arts, Mexico City, Mex., June 21-25.

Missouri Association of Public Utilities—Annual Convention, Hotel Jefferson, St. Louis, April 28-30.

National Electrical Wholesalers Association—Annual Convention, Hotel Statler, Buffalo, May 3-7.

Missouri Valley Electric Association—Rural Round Table, President Hotel, Kansas City, May 5; Sales and Rural Conference, President Hotel, Kansas City, May 6-7.

Southeastern Electric Exchange—Spring Conference, Engineering and Operating Section, Tampa Terrace Hotel, Tampa, Fla., May 6-7.

Pennsylvania Electric Association—Communications Committee, Hotel Traylor, Allentown, May 6-7; Systems Operation Committee, Castleton Hotel, New Castle, May 13-14; Prime Movers Committee, Hotel Casey, Scranton, June 10-11.

Northwest Electric Light & Power Association—Annual Business Meeting, Empress Hotel, Victoria, B. C., May 10; Business Development Section, Empress Hotel, Victoria, B. C., May 10-12; Accounting and Business Practice Section, Davenport Hotel, Spokane, May 17-18; Personnel Section and Safety Conference, Medford Hotel, Medford, Ore., June 9-11.

Engineers Club of Philadelphia—Engineering Progress Show, co-sponsored by junior members and the Franklin Institute at the Institute, May 11-16.

Electrical Manufacturer's Representatives Association of Michigan—Industrial Electrical Exhibit, Convention Hall, 4484 Cass Ave., Detroit, May 12-14.

New Jersey Utilities Association—Spring Meeting, Seaview Country Club, Seaview, N. J., May 14.

American Public Power Association—Annual Convention, Broadmoor Hotel, Colorado Springs, Colo., May 17-19.

Public Utilities Advertising Association—Annual Meeting Hotel Cleveland, Cleveland, Ohio, May 27-28.

American Society of Refrigerating Engineers—Spring Meeting, New Ocean House, Swampscott, Mass., May 31-June 2.

Arkansas Utilities Association—Annual Convention, Arlington Hotel, Hot Springs, Ark., June 14-15.

Canadian Electrical Association—Annual Convention, Manoir Richelieu, Murray Bay, Province of Quebec, June 16-19.

American Society for Testing Materials—Annual Meeting, Book-Cadillac Hotel, Detroit, June 21-25.

Bargaining Issue Leads to Strike at Tidd Plant

Refusal of the Ohio Power Co to include control operators at its Tidd Plant in a bargaining unit of employees represented by UWU-CIO has led to a strike. National UWU officers called the strike for Monday morning, and at midweek, the union members were still out. Operations at the plant were not seriously curtailed. Supervisory employees have taken over the work of the strikers.

The union also started picketing at the Windsor plant, Power, W. Va., and at the Philo, Ohio, Plant. However, the company went into state courts and secured restraining orders against the picketing. All of the pickets were from the Tidd Plant at Brilliant, Ohio. A contempt action is expected against the pickets at the Philo Plant who refused to obey the court order. Operations at Windsor were normal, and only a few workers remained away at Philo.

NLRB has not acted on a finding of its examiner that the utility is guilty of refusing to bargain. The company claims it is willing to bargain with all employees but control operators which it considers supervisors. Local union officers were willing to bargain with the company, leaving the issue of inclusion of the control operators up to the courts. National officers of UWU refused to allow this.

The strike at Tidd is an aftermath to one at the Windsor Plant from Mar 21 to 25. The company in accord with its rights under the contract with UWU assigned employees from other departments to work on a boiler overhauling job. The men regularly employed on such work walked out. Eleven leaders of this unauthorized stoppage were not allowed to return and have since been discharged.

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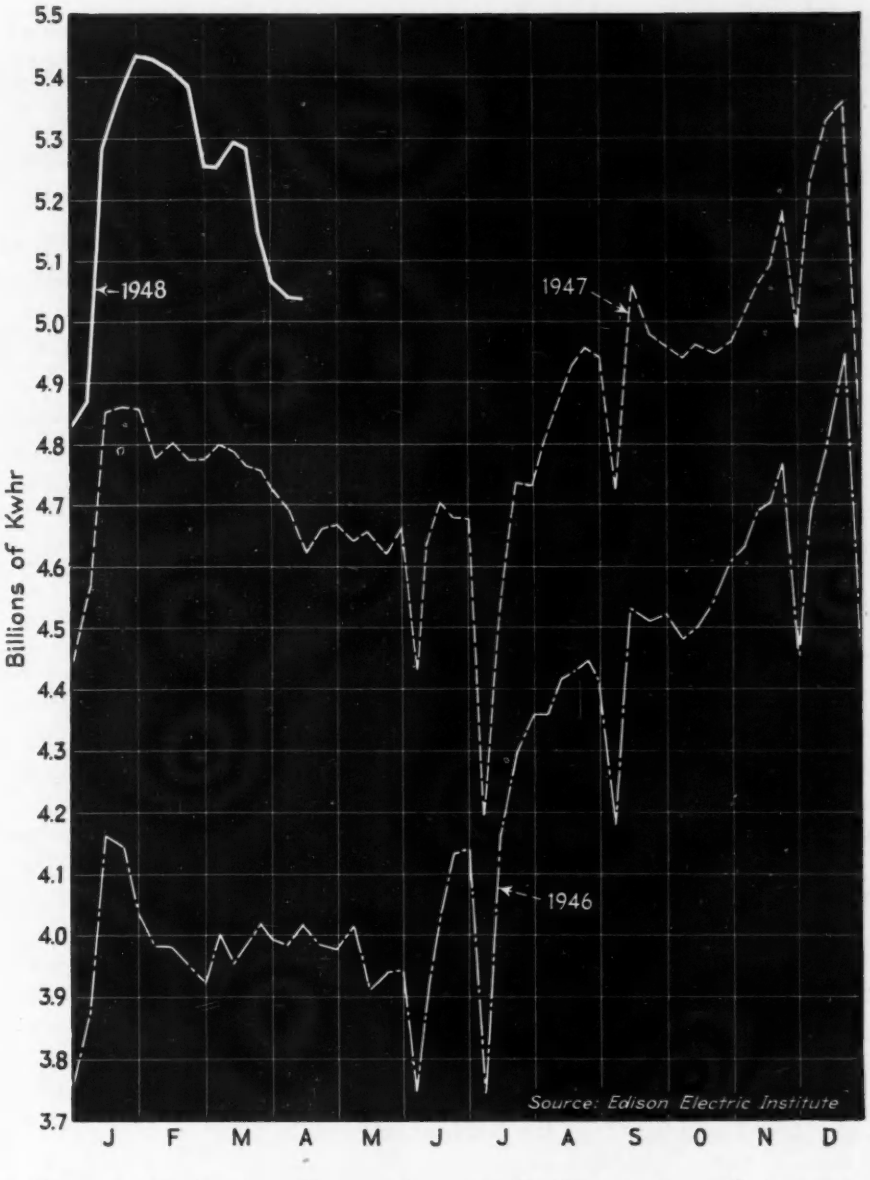
Navy Agrees to Leave Power Train in Arizona

Squawks of Arizona Congressmen, heard in Washington on announcement that the Navy had cancelled its contract with the Salt River Valley Water Users' Association for use of a 10,000-kw power train, resulted in postponement of the move. Return of the unit to the Mare Island Naval Base in California has now been set for Oct 1.

With Arizona in the grip of a drought as serious as that in California, Arizona spokesmen pointed out that many crops could not be harvested if the unit were removed now. Over 100 irrigation pumps would be powerless.



"Every Industry Executive Will Want One," Arput

ARPUT is knocking on the door of Oak Ridge, figuratively speaking that is. EW's output editor has turned inventor. "Who was that fellow Edison?" he scoffs. "What did Tom ever invent besides the electric light and several thousand other items? If the AEC will let me into Oak Ridge, I'll show you something."

The great invention is a strike predictor. Every industry executive will want one on his desk, so claims ARPUT. Operation will be simplicity itself, huckster ARPUT explains. "Just point the indicator to any section of the U. S. On the viewing screen will appear a list of all strikes in all industries in the next two years. It will even tell you how long they'll last."

ARPUT is a bit reticent and very vague about the details. Seems that it is a supersonic, nucleonic, electronic radar with a fluorescent illuminated crystal ball and auxiliaries. But details are a secret. That's why ARPUT wants to work in the privacy of Oak Ridge. But it's no secret that last week the output went down for the fifth consecutive week.

Weekly Output, Millions Kwhr

1948		1947		1946	
Apr. 10	5,033	Apr. 12	4,620	Apr. 13	4,015
Apr. 3	5,037	Apr. 5	4,693	Apr. 6	3,988
Mar. 27	5,065	Mar. 29	4,729	Mar. 30	3,992
Mar. 20	5,145	Mar. 22	4,759	Mar. 23	4,017
Mar. 13	5,285	Mar. 15	4,764	Mar. 16	3,988
Mar. 6	5,293	Mar. 8	4,787	Mar. 9	3,953
Feb. 28	5,252	Mar. 1	4,797	Mar. 2	4,000
Feb. 21	5,254	Feb. 22	4,778	Feb. 23	3,923
Feb. 14	5,385	Feb. 15	4,778	Feb. 16	3,949

Percent Change from Previous Year

	Apr. 10	Apr. 3	Mar. 27
New England	+ 8.3	+ 7.6	+ 7.1
Mid-Atlantic	+ 9.0	+ 4.5	+ 4.1
Central Industrial	+ 7.8	+ 7.2	+ 5.9
West Central	+ 5.1	+ 5.7	+ 3.2
Southern States	+12.7	+10.3	+10.4
Rocky Mountain	+11.3	+10.6	+11.4
Pacific Coast	+ 6.6	+ 6.2	+ 8.5
Total United States	+ 8.9	+ 7.3	+ 7.1

IN THE INDUSTRY

RICHARD N. LARKIN

PROBABLY NEVER HAVE so many spectators witnessed the birth of something new in the electric utility industry as attended the birth of the Middle South Development program recently at Greenville, Miss.

MSDP, according to President C. Hamilton Moses, Arkansas Power and Light Co, aims at doing something about the Deep South's status as "The Nation's No. 1 Economic Trouble Spot." AP&L, Mississippi Power & Light Co, Louisiana Power & Light Co, and New Orleans Public Service, Inc, have joined hands in the move to develop the rich tri-state region they serve.

Well certainly, like the rest of the world, the South can stand a lot of development. Who helps achieve such growth as MSDP is seeking ought to profit pretty handsomely. And beyond the dollar sign will be found other great values. For instance, it's hard to think of a government power system whose statutory reason for existence does not go far beyond the peddling of kilowatt-hours. Congress keeps appropriating for BPA, TVA, Reclamation, and SPA on the basis that they'll work actively to build up underdeveloped regions. Congress wants them developed badly enough to lavish public funds on the process. Does any law prohibit this to private agencies? There is none. Then perhaps private power's answer to government competition should be the type of regional development Congress continues to expect each spring when it appropriates new millions for government power.

How will MSDP turn out? Will it attempt to lure established industries from the Northeast with the bait of plentiful natural gas and 10-year tax exemptions? Or will it cure an economic cancer which affects the entire United States? Will it merely attempt to redistribute the existing economic pie? Or will it seek to increase the pie so all can have more? Will it become an organized attempt to funnel government money into the region for housing (Wagner-Ellender-Taft Bill), public health (Wagner-Murray-Dingell Bill), and education (Taft Bill), while both industry and state governments fatten on the new federal dollars? Or will it demonstrate that free, competitive enterprise can lift the economic level of a region by creating entirely new wealth, human and otherwise?

The answer will be written by the sponsors of MSDP and by the citizens of the three states it seeks to develop. By everything they said at Greenville, the sponsors indicated that they intend a real regional development job—one which helps the states and their citizens first, and the utilities second. They insisted it is a free enterprise job, not a government-financed program. They indicated every awareness that the region they serve can only grow commercially as it grows in health, education, religion, and all the human values which let people live full lives.

All this puts ALMNO systems right out front. They've embarked on a tremendous program, one which will take years to do properly—to reverse a grave natural trend of ancient standing. In a real sense, they've undertaken to demonstrate what the private power business has been saying for years—that it, too, can do a public service job beyond the generation and sale of kilowatt-hours.

TECHNICAL TRENDS

ARCHER E. KNOWLTON

Industrial planning programs dawdle because of high construction costs. Projects still march up to final decision stage and then fade. Utility engineering staffs have to do their matching planning several times—futile business.

Corrugated asbestos was used for walls of one recently-completed power station. Resultant saving was $3.75 per kw against bricks, which cost 5 to 6 cents apiece to lay.

Helicopters and light planes were both used extensively and effectively in Pennsylvania during the disastrous ice storm of January.

Switched capacitor banks are on the increase. Example, an Eastern utility already has 18,000 kva on the 4 kv. Next move is 17 banks of 2700 kva each on 12 kv. After that they may be spotted on the 66-kv system. Regulators are uncommon on the system.

Pumped-storage hydro plants like the Connecticut Light & Power installation on Rocky River have waited elsewhere for strong economic urge. High fuel cost and a poor hydro year are providing a revived stimulus.

Dry ice comes in very handy when atmospheric ice knocks out the rural and suburban feeders. It kept the cuts of beef, the eggs, berries and vegetables frozen in the home freezers until electric service was restored. Some eastern utilities were amazed at the number of freezers disclosed.

Crew compartments in trucks were computed by one utility to involve $800 worth of poorly utilized space. Better, it concluded, to start the truck rolling a half-hour sooner and transport the line crew later in a station wagon.

Reheat at the boiler of steam that has worked its way partly through the turbine is economically attractive because it can save up to twice as much as it costs to apply. But it does call for more correlation between turbine and boiler designs than otherwise is customary.

MANUFACTURERS and MARKETS

Allis-Chalmers Developing Mobile Power Plants, Gas-Turbine Driven

The long-standing need of power utilities for a compact, easily moved, short-notice source of emergency electric current may be filled within the next few years. Mobile gas turbine plants now under development by Allis-Chalmers Manufacturing Co engineers are being designed for this purpose.

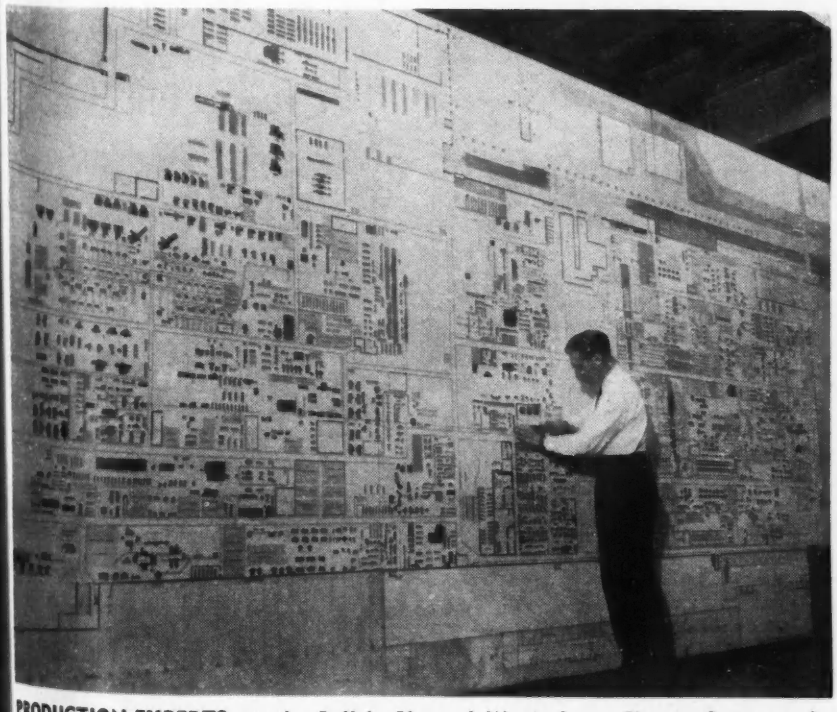
Studies have already been made of 3000 and 6000-kw units to be mounted on railway trucks for rapid movement over normal railway track, the company reports. The proposed units could operate as a sole source of power or could be synchronized with an existing power system.

The prime mover of the 3000-kw unit operates on the simple gas turbine cycle with regenerator. With an inlet temperature of 1,300 deg F, the unit would have a fuel-bus efficiency of about 23% at full load. Mounted on eight carrying axles arranged in four standard freight car trucks, the power plant would weigh approximately 115 tons. Sufficient oil-tank space is built into the unit to permit full load operation for approximately six hours.

The turbine unit is coupled to a 3,600 rpm generator through a reduction gear. All working air for the gas turbine plant and cooling air for the generator is taken in through filters in the side walls of the cab. All electrical equipment and synchronizing apparatus is built into the cab.

General arrangement of the 6,000-kw, 3,600-rpm unit is identical to the smaller power plant, except that the inlet temperature is 1,150 deg F, and a gear will not be necessary. Efficiency will be approximately 21%. Total weight would be about 250 tons, with tanks loaded for eight hours operation and the unit ready for service. If a higher efficiency unit with limited life is desirable, the 6000-kw size gas turbine can be built for 1,300 deg F gas inlet temperature. In this case, the efficiency would be 23%. The generator output would be increased to 7500 kw, it is reported.

Standard draft gear and air brakes would permit these power plants to be moved in freight trains. The regenerator and the air exhaust stacks for generator and regenerator must be removed for standard clearance.



PRODUCTION EXPERTS at the Buffalo Plant of Westinghouse Electric Corp use this production planning board to get a bird's eye view of production lines and machinery. Measuring 11 by 24 ft, it shows every machine, production line, conveyor, and crane on a scale of ⅛ in. to the foot

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Lindberg Engineering Buys New Electronics Division

Lindberg Engineering Co, Chicago, has acquired the assets of the electronics division of Illinois Tool Works, Chicago, and will continue the business of the manufacture and sale of high frequency induction and dielectric heating equipment. In making the announcement, C. H. Stevenson, Lindberg vice-president, stated that temporarily, operations will continue at the Illinois Tool Works plant until June 1, and then move into the Lindberg plant.

John A. Callanan, who headed this division for Illinois Tool Co, will, with his staff, join the Lindberg organization.

This latest move completes the expansion program begun by Lindberg Engineering Co several years ago. As a result of this and other recent expansions a new building with a floor area of 15,000 sq ft will be erected on property adjoining the present Lindberg plant.

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GE Announces Employees Savings, Stock Bonus Plan

To meet the needs of a greatly expanded employment in the General Electric Co and its domestic affiliates, Charles E. Wilson, president, has announced that an employees savings and stock bonus plan for the approximately 200,000 employees will be submitted for stockholders' approval at the annual meeting in Schenectady on Apr 20.

Mr Wilson stated that the new plan is designed to encourage widescale savings, contribute to employee security and morale and induce wide employee interest in the company's welfare and success. All employees, with the excep-

tion of directors and senior officers and executives, would be eligible to participate by means of payroll deductions of as little as $1 per week, or less.

Employee payments under the plan would be invested in high-grade securities. As an incentive to employee participation, the company would contribute up to 15% of the employee savings in the form of GE stock, provided the savings are retained in the plan for a period of five years. At the end of five years, the stock would be distributed to the employee or held in trust for his account.

In order to control the cost of the plan to the company, a definite limitation of $30 million would be placed upon the total amount of subscriptions in any one year, and individual subscriptions in any one year would be held to a maximum of $750 or less.

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Manufacturers Make New Sales Assignments

Electrical manufacturing companies have recently made the following appointments to their sales staffs:

Sterling Electric Motors, Inc, Los Angeles, has appointed W. L. Pharmer Memphis district sales manager.

McGraw Electric Co, Elgin, Ill, has appointed E. B. Thompson domestic representative for the Philadelphia territory and Milton J. Ely as representative for the Cleveland-Pittsburgh area. Mr Thompson has been the Toastmaster domestic appliance representative for the Cleveland-Pittsburgh territory during the past two years. He replaces B. F. Parker, recently transferred to the company's New York office. Mr Thompson will be located in Philadelphia. Mr Ely will go to the Cleveland-Pittsburg territory after serving as Toastmaster domestic representative in New York State and northern Pennsylvania during the past year and a half. He will make his headquarters in Cleveland.

Nash-Kelvinator Corp, Detroit, has appointed James A. Warren, Jr, as Kelvinator zone manager at Oakland, Calif. Mr Warren replaces F. B. Posthuma, resigned.

Thor Corp, Chicago, has appointed Eugene F. Sample, eastern division representative at New York and Richard J. Nugent, Chicago city sales representative.

General Electric Co has appointed William Tennant New York district representative for its conduit products. Mr Tennant was formerly connected with the company's wiring device and wire and cable sales sections in Bridgeport, Conn.

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Lead Price Advances

The price of lead has advanced to 17.5 cents a pound in New York. The former price was 15 cents.

NEW ELECTRICAL CONSTRUCTION

A weekly selection of U. S. electrical construction projects announced by private and government utility systems involving more than $70,000. Also listed are major industrial and construction jobs where electrical work is indicated or implied

UTILITIES

Proposed Construction

Arizona-Nevada—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., stubs and anchor bolts, four 161 kv and four 230 kv. disconnecting switches, supports, Davis Dam Proj., Spec. 2144.

Calif., Vallejo—P. Wks. Dpt., 12th Naval Dist. Federal Office Bldg., San Francisco, reconstructing Diesel generator shop at Naval Reserve Training Center, NOY 15685, Spec. 19668.

Idaho—Bureau Reclamation, Dpt. Interior, Bld. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Mountain Home, two 25-kva, 7,200 to 120-volt, single phase, 60 cycle, self-cooled, indoor-type distr. transformers and two 27 kw., 66.4 volt, 400 ampere continous-rating, 0.164 ohm, grid-type resistor units for Anderson Ranch Powerplant, Boise Proj., Spec. 2188. Walker R. Young, Denver, Colo., ch. engr.

Kan., Riverton—Empire Dist. Electric Co., James E. Harsh, pres., 602 Joplin St., Mo., 30,000 kw. steam turbine generating power plant addn. 152 x 156 ft. steel, concrete bldg., 75 ft. high as exten. to frequency changer bldg. $4,000,000-$4,375,000. Black & Veatch, 4706 Broadway, Kansas City, 2, Mo., engrs.

Mich., Sault Ste. Marie—U. S. Eng., 609 Federal Bldg., Detroit, Zone 31, hydroelectric power plant, appurtenant works at St. Marys Falls on St. Marys River, Serial No. 20-064-48-72. Extended date.

Montana — Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., generators for Hungry Horse Powerplant, Hungry Horse Proj., Spec. 2108.

Nebraska — Eastern Nebraska Public Power Dist., R. C. Johnson, pres., Mead, 222 mi. rural distr. line, in Saunders, Cass and Otoe Counties, incl. rural distr. lines, substations and general sys. imprvs. **$810,000.** Henningson Eng. Co., Standard Oil Bldg., Omaha, consult. engr.

New Mexico—Lea County Electric Cooperative, Lovington, 429 mi. rural distr. line, Lea Co. **$775,000.**

North Dakota—U. S. Eng., Garrison Dist., Fort Lincoln, P. O. Box 300, Bismarck, 115 kv. frame substation, misc. concrete equip. installation pads, site grading, steel cyclone fence and approx. 4,600 lin. ft. 12.5 kv. distr. sys. near Riverdale, on Missouri River, approx. 75 mi. north of Bismarck. Plans deposit $5.

Oregon—U. S. Eng., 628 Pittock Block, Portland, Zone 5, design, manufacture and deliver f.o.b. at McNary Dam, four 111,300 hp. hydraulic turbines, incl. embedded parts, appurtenances, and 4 sets governing equip. for McNary Dam power plant on Columbia River, near Umatilla, Serial No. Eng-35-026-48-726.

S. D., Gregory—Rosebud Electric Assoc., Burke, purchase and installation 700 kw. Diesel generating unit. **$117,000.**

Tennessee—Middle Tennessee Electric Membership Corp., Murfreesboro, 27 mi. rural distr. line and sys. imprvs., Rutherford Co. **$700,000.**

Tex., Bryan—Mayor, one turbine-generator unit, one set duplex switchgear, one condenser and air ejector, 2 condensate pumps, 2 circulating pumps for proposed power plant. Plans deposit $10. Freese, Nichols & Turner, 2111 National Standard Bldg., Houston, Zone 2, consult. engrs.

Washington—Bonneville Power Admin., P. O. Box 3537, Portland, Ore., completing construction Olympia 115 kv line terminal at Shelton substation.

Wyoming — Bureau Reclamation, Dpt. Interior, Building 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Boysen, two 8,333/10, 417 kva. 4,160 delta to 34,500 wye-volt, 3-phase, and four 3,333/4,444 kva, 34,500 delta to 66,400/115,000 wye-volt, single phase, 60 cycle oil immersed, self-cooled, forced air cooled, outdoor power transformers, each equipped with lightning arresters for Boysen Powerplant, Boysen Unit, Missouri Basin Proj. Spec. 2189.

Low Bidders & Contracts Awarded

Calif., Los Angeles — Bd. Water & Power Comn., 207 S. Broadway, 4,326,000 ft. 954,000 C.M. aluminum cable steel reinforced transmission line conductor and accessories for power project in Owens River Gorge, 30 mi. north of Bishop to here, to Aluminum Corp. of America, 108 W. 6 St. **$1,216,422.** Awarded 3/9.

Colorado — Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Mar. 30, main and station service control equipment f.o.b. Loveland, for Estes Power Plant, Colorado-Big Thompson Proj., Spec. 2063, Schedules 1 and 2, from Westinghouse Electric Corp., Gas & Electric Bldg., Denver, **$110,911**; Schedule 3, from Allis-Chalmers Mfg., Continental Oil Bldg., Denver. **$65,970.**

Ill., Chicago—Sanitary Dist. of Chicago, 910 S. Michigan Ave., Apr. 1, West-Southwest Sewage Treatment Works, electrical work for pump and blower house exten., Div. Sa, from Northern States Co., 33 N. LaSalle St., **$1,451,390.**

N. Y., Tompkins Cove—Rockland Power & Light Co., 12 N. Broadway, Nyack, superstructure for generating plant, to Deakman-Wells Co., Inc., 921 Bergen Ave., Jersey City, N. J. Est. **$300,000.** Bids 1/5.

Montana—Bureau Reclamation, Dpt. Interior, Columbia Falls, Hungry Horse Government Camp, Apr. 7, Hungry Horse Dam and power plant, south fork of Flathead River, 8 mi. southeast of Columbia Falls. Spec. 2122, from Shea-Morrison-Knudsen, 319 Broadway, Boise, Idaho. **$43,431,000.**

INDUSTRIAL, COMMERCIAL & PUBLIC BUILDINGS

Proposed Construction

N. M., White Sands—U. S. Eng., P. O. Box 1538, Albuquerque, addnl. Personnel Bldgs. and Naval Armament Plants, etc. **$12,824,060.**

Okla., Shawnee—Bd. Educ., plans by Albon W. Davis, Shawnee, rebuilding high school. **$1,000,000.**

Tex., Port Lavaca—Aluminum Co. of America, Commerce Bldg., Houston, plant. **$50,000,000-$75,000,000.**

Low Bidders & Contracts Awarded

Mich., Saginaw—Veterans Admin., Munitions Bldg., Wash., 25, D. C., general contract 200-bed hospital, etc., Spec. 4316, Proj. No. 2886 to Spence Bros., 201-4 Brewer Arcade. **$4,304,600.** Bids 3/23, awarded 4/2.

N. J., Newark—U. S. Eng., 120 Wall St., New York 5, N. Y., Apr. 1, 16 story, 1,000 bed Veterans Hospital, incl. boiler house, laundry service tunnel and garage for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash. 25, D. C., from H. R. H., 9 E. 40 St., New York, N. Y., **$13,977,000**; elevator and dumbwaiter work, from Westinghouse Electric Corp., 9 Rockefeller Plaza, New York, N. Y., **$680,000.**

N. Y., Yonkers — Mid-Hattan Corp., Lloyd De L. Brown, pres., 1560 Broadway, New York, Zone 19, shopping center, 1 to 4 stories, on 40 acre site, Cross County Parkway at Central Ave. **$5,000,000.**

NEWS ABOUT PEOPLE

Webster Elected President of Rhode Island Utility

William Webster has been elected president of the Narragansett Electric Co, Providence, R. I. He succeeds Samuel C. Moore, who becomes chairman of the board. Mr Webster was graduated from the U. S. Naval Academy in 1920. He served in the Pacific

W. WEBSTER

Fleet for two years. Graduate work in naval architecture followed at the Massachusetts Institute of Technology. From 1924 to 1928 he was a naval constructor at Norfolk Navy Yard and in Philadelphia. Mr Webster then joined the New England Power System. He became assistant manager of the southern district, with headquarters at Providence. He was also elected executive vice-president of the Narragansett company. In 1942 he was made vice-president of what is now the New England Electric System, Boston. This organization has succeeded the former New England Power Association, then known informally as the New England Power System. During World War II Mr Webster was active in the work of the National Defense Research Committee and consultant to the Office of Scientific Research and Development. He is chairman of the New England Council, Atomic Energy Committee and a consultant to the Atomic Energy Commission. He will continue vice-president of the N.E.E.S.

Mr Moore is a native of Ireland. He came to the United States as a boy. After extended experience in the utility

S. C. MOORE

field elsewhere, he joined the Connecticut River Transmission Co in 1912. For some time his headquarters were at Worcester, Mass. He was in charge of financial matters and in 1914 became general manager. Mr Moore had a major part in the organization of the New England Electric System. With the organization of the New England Power Association in 1926 he was elected vice-president and general manager. In 1932 Mr Moore became president of the Narragansett company and has since been in charge of all N.E.E.S. subsidiaries in the Rhode Island area.

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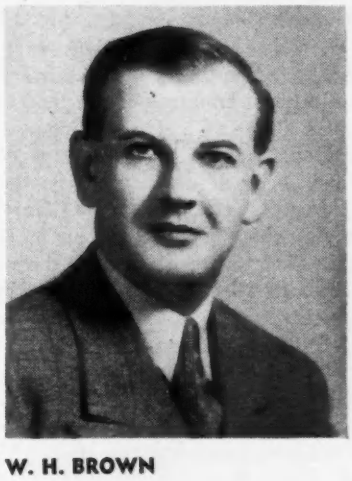
▶ WRIGHT CANFIELD, head of the research department of the Public Service Co of Oklahoma, Tulsa, has been appointed assistant to the president. He will be in charge of rates and in general will be an economist for the utility. Mr Canfield has spent practically his entire business career with Public Service. Starting in 1930, he was assigned to the general office engineering department and later to the Weleetka power station. Returning to Tulsa in the general engineering department, he engaged in certain economic studies for the company. After several operating assignments he was made head of the research department. Mr Canfield holds membership in the American Institute of Electrical Engineers.

▶ WILLIAM C. MULLENDORE, president of the Southern California Edison Co, has been elected to the board of directors of the Union Pacific Railroad Co.

W. H. Brown Elected Head of Hoskins Manufacturing

W. H. Brown, formerly assistant general manager of the Hoskins Manufacturing Co, Detroit, has been named president and chief executive officer. He succeeds W. D. Little, who has retired as president and general manager to become chairman of the board of directors.

Mr Brown became identified with Hoskins in 1939 as technical assistant



W. H. BROWN

to the factory superintendent. His previous experience had been with General Motors, and with Ford where he worked for several years. At Hoskins he has served as factory superintendent and assistant general manager and on the board of directors.

Mr Little has been with Hoskins since 1912, serving most of that time as sales manager. He became president in 1944.

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▶ BARRETT M. CAROTHERS, project engineer, engineering and construction department, Union Electric Co, St. Louis, has been appointed electrical engineer.

▶ CARROLL A. OLIVER, for the past 10 years an official of the Belmont, Mass., Municipal Light Department, has been appointed manager of the Taunton (Mass.) Municipal Plant. At present assistant manager of the Belmont light department, Mr Oliver first became associated with the Belmont plant in 1937 as an electrical engineer in charge of

plant equipment. At Taunton he succeeds Chester F. Buckley, who, after 20 years in charge at Taunton, entered private employment in 1946. During the interim, Frank Ball of Cambridge, a retired New England Power Co executive, was acting manager.

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Thorpe Elected President of Southeastern Group

(See Front Cover)

John E. S. Thorpe, president of Nantahala Power & Light Co, Franklin, N. C., was elected president of the Southeastern Electric Exchange at the annual meeting held last week at Boca Raton, Fla.

Born in Chester, England, Mr Thorpe came to America in 1890 and settled in Baltimore. After obtaining an electrical engineering degree in 1905, he joined J. G. White & Co and was sent to San Juan, Puerto Rico, as assistant to the electrical engineer of the San Juan Light & Transit Co. He was made electrical engineer in 1907 when the company was consolidated with the Sociedad Luz Electricia of San Juan. He became general superintendent in 1908 and in 1912 was transferred to the main office in Toronto, Canada, as consulting engineer.

In 1913 Mr Thorpe was elected chief engineer and managing director of Mexican Northern Power Co and took charge of construction of the hydro project under construction on the Conchose River near Santa Rosalia.

Joining the Aluminum Co of America's subsidiary, Tallassee Power Co at Badin, N. C., in 1915 as resident engineer in charge of construction of Narrows Dam, he was appointed general superintendent in 1918. Three years later he was assigned to reorganize the Niagara Falls plant of the company, but in 1924 he resigned to become vice-president of Charles B. Bawley & Co.

In 1926 Mr Thorpe returned to Aluminum Co of America, making engineering investigations on the High Rock hydro development on the Yadkin River. Within a short time he was sent to Russia in charge of an engineering and geological party to investigate ore and waterpower properties. Upon his return the following year, he was appointed general superintendent of Knoxville Power Co, Aluminum subsidiary, in charge of construction of Calderwood Dam. It was in 1929 that he was elected president of Nantahala Power & Light.

Mr Thorpe is a member of the American Institute of Electrical Engineers.

Page & Hill Elects Officers; Grant Harris, President

At the recent annual meeting of Page & Hill Co, Minneapolis, the following officers were elected: president, S. Grant Harris, Jr; vice-president and assistant secretary, LeRoy A. Page, Jr; vice-president and treasurer, Roger R. Page; secretary, Sherman A. Brooks and assistant treasurer, Peter J. Fronsee.

Since graduation from the College of

S. G. HARRIS

Forestry of the University of Minnesota in 1912, Mr Harris has spent most of his business life with Page & Hill. He has served in practically all capacities in the operating and sales end of the business. In 1932 he was elected vice-president.

LeRoy Page has been identified with the company for 24 years. He was formerly in charge of sales offices in Pittsburgh and New York and for the past four years has been in charge of western production.

For more than 20 years, Roger Page has been in charge of northern woods production for the company and at present is directing the woodworking plant at Shakopee.

Also a 20-year veteran with the company, Mr Brooks has been largely engaged in sales work and has a wide acquaintance among the utility and telephone executives, particularly in the Northwest. Mr Fronsee has been in charge of woods operations in northern Minnesota for the past 10 years and is now assistant to Roger Page.

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► MYRON F. FREEMAN, until recently superintendent of power for the Boston Elevated Railway Co, has been appointed assistant chief engineer of Combustion Engineering Co, Inc, New York. He had previously been identified in an engineering and construction capacity with Jackson & Moreland, consulting engineers of Boston, and with Stone & Webster Engineering Corp.

OBITUARY

Col John P. Jackson

Col John P. Jackson, who was personnel director of the Consolidated Edison Co of New York, Inc, when he retired in 1938, died in St. Petersburg (Fla.) on April 2. He was 79 years old.

Col Jackson was born in Philadelphia and had been associated with the electrical industry since he began as a wireman in the Sansom St plant of the Philadelphia Electric Co in 1889. He entered the New York Edison Co as assistant to the vice-president and general manager in 1924, and two years later also became manager of the personnel bureau. He was placed in charge of Consolidated personnel department in 1937.

Col Jackson was dean of the School of Engineering at Pennsylvania State College when he resigned in 1913 to become State Commissioner of Labor and Industry. The next year the Governor sent him to study industrial conditions in Europe.

He had served as national field director of the Joint Fuel Committee of the utilities at Washington. He was a Chevalier of the Legion of Honor, France, and an officer of the Italian Order of the Crown. He held the Italian War Cross and a certificate of exceptional merit from the U. S. Government.

Col Jackson was joint author of two books, *Alternating Current and Alternating Current Machinery* and *Elementary Electricity and Magnetism*.

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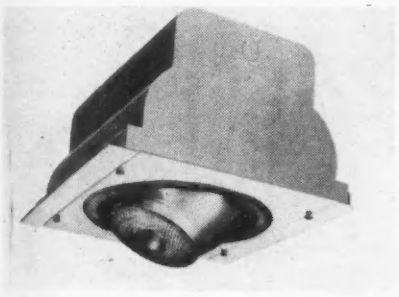
► ALFRED E. M. SHAFER, research engineer Pennsylvania Power & Light Co, Allentown, died at his home in that city on April 5. He was 50 years old. Born in Lehighton, Pa., he was associated with the utility company for 27 years. Starting at Hauto, he held several operating positions there and elsewhere before going to Wilkes-Barre as superintendent in charge of steam and electric plants. Subsequently he went to Allentown, where eventually he became head of the mechanical research division in 1945. Mr Shafer was active in the Pennsylvania Electric Association, serving on the prime movers committee at the time of his death. He was also a member of the American Society of Mechanical Engineers, National District Heating Association and the National Association of Corrosion Engineers.

NEW EQUIPMENT

Ceiling Spotlight

FOR USE WITH recessed fluorescent troffers, an incandescent spotlight, Trofferspot, was developed by Leader Electric Co, 3500 N. Kedzie, Chicago, Ill.



The bulb and reflector unit are mounted to a plate attached to the troffer with four thumb screws.

A type PAR 38/50-w incandescent lamp of Pyrex glass with a built-in reflector is used. The downward beam can be adjusted to swing in a circle and can be angled up to 23 deg from its vertical axis.

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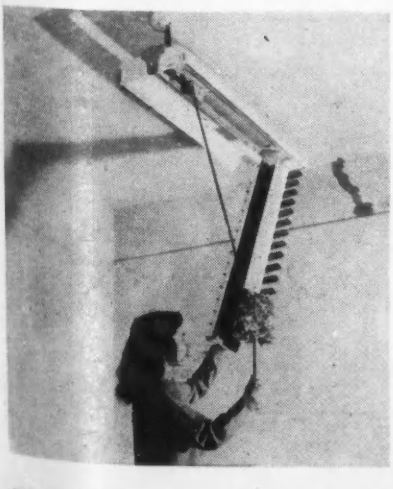
Luminaire

NEW FLUORESCENT fixture, called Guth-Lite, features a "jacknife" hinge and is a product of Edwin F. Guth Co, 2615 Washington Blvd, St. Louis 3, Mo. It is made in 2-40-w and 2-100-w sizes and has diffused aluminum louvers. Savings in installation and maintenance are claimed by the construction in two distinct parts—a ceiling plate or channel and a reflector assembly.

After the 10-lb channel is hung on stems or ceiling, the wiring is brought in and connected, then the reflector is attached by the jacknife hinge, from the floor level. A reeled spring is pulled down from the channel and hooked to the reflector. When fixture is closed, the lamp circuit is established and the unit is ready to operate.



For maintenance the reflector is counterbalanced by the spring so it opens slowly. This assembly can be removed for cleaning at floor level. As soon as the fixture is opened, the lamp circuit is disconnected from the line.

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Water Trough De-Icer

A FLOATING HEATER to keep livestock drinking tanks free of freeze-overs is available from Westinghouse Electric Corp, 306 Fourth Ave, Pittsburgh 30, Pa. The new heating device, known as the water trough de-icer, is said to be easily nosed aside by livestock when drinking. It is also reported as built to insure against danger of burning or fright.

A thermostat is provided to disconnect the heating element when heat is no longer needed to keep ice from forming. Tests conducted under temperatures as low as 20 F below zero showed operating costs at less than 5¢ a day. The Corox heating element is rated 500 w. It and the thermostat are encased in the 10-in. diameter by 2¼-in. high brazed copper float the edges of which are rounded and smooth. The 16-ft long rubber-covered cord is connected and sealed in the bottom of the float case by a squeeze bushing.

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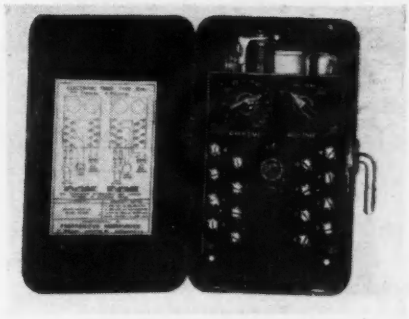
Interval Timer

AN ELECTRONIC timer series 30, having a range from 0.03 sec to 4 min, has been produced by Photoswitch Inc, 77 Broadway, Cambridge 42, Mass. The device is designed for machinery and process control, to provide interval timing, delayed action, automatic repeat and programming.

The timer provides for basic types of timing through terminal panel connections. It operates on 115/230-v, 50-60 cycles and has two spdt switches. Rating of main contact is 10 amp 115 v a-c and auxiliary contact 1 amp



115 v a-c. Accuracy is said to be within 2%. Ambient temperature limits are listed as 32 to 150 F and ambient relative humidity as 20 to 95%. Net weight is 8 lb. Bulletin PC478 provides additional information.

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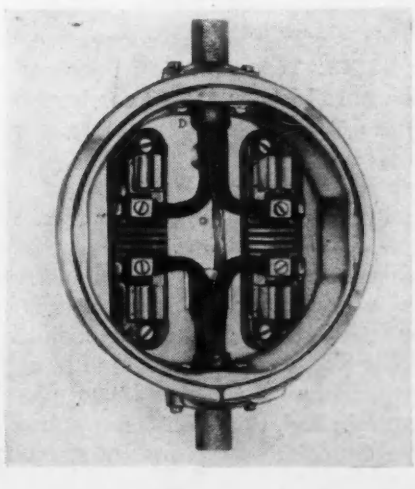
Meter Socket

PRODUCTION OF A new drawn-aluminum mounting socket for use with standard single-phase socket type watthour meters is announced by Duncan Electric Mfg Co, Lafayette, Ind. Designated as type D, it is intended to supplement the type S die cast sockets.

The type D is stated to be suitable for more than 30 combinations of conduit, cable, and openings using cable from two No. 8 to three No. 2 and conduit from ½ to 1 in. Two knockouts are provided in the side and one in the back of the socket. A compression type fitting is used to secure a watertight connection with cable in a knockout. A one-piece sealing ring is furnished, made of the same grade of alloy as the socket. Rosite blocks have switch-jaw terminals which may be changed from vertical to horzontal.



ELECTRICAL BUSINESS OUTLOOK

POWER OUTPUT slumped in March from the record high established in January and February.

A decline from the winter peak is usually expected as longer days and milder weather cut lighting and heating requirements. This year the drop was especially sharp because of the severely cold weather and heavy heating loads in February. The curve will probably go lower in April, as industrial users are hampered by the coal strike. But, there has been no let-up in basic demand, which is still increasing.

In coming months output should follow the slowly rising curve of industrial production. From its summer low of 176, the Federal Reserve Index reached 193 in February and probably went higher in March. After industry shakes off effects of the coal strike, the index could approach 200 as new plant capacity comes in during the second quarter.

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CONTINUED HIGH ACTIVITY later in '48 seems assured by government expenditures to fight the cold war. On top of the $6.2 billion foreign aid bill just approved by Congress, the Administration has asked for an additional $3.4 billion for rearmament. If proponents of a big air force get their way, the extra appropriations may top $5 billion.

Despite the pending $3.4 billion increase in military expenditures, Congress has voted a $4.8 billion tax cut. Together these two items add up to an increase of at least $8 billion in purchasing power.

This increase will be concentrated in the second half of 1948. Tax reduction becomes effective for wage earners May 1; for bigger taxpayers, June 15. From June to December, therefore, the tax-saving will be at an annual rate of nearly $10 billion. Military spending will pick up too in the closing months, might be at a $5 billion annual rate by year end.

Resulting rise in personal incomes might set off a new consumer spending boom. Fear of war would also stimulate buying, especially of durable items. This would mean continued heavy sales of electrical equipment. But it could also mean a new price-wage spiral. The President's economic advisers have already asked for stand-by price and wage controls.

IMMEDIATE IMPACT of rearmament will be felt only by a few industries. Aircraft and machine tool makers will be first to benefit. Their increased power requirements will be the earliest to add to utility loads. Most other industries are operating near their ultimate capacity now; they will take more power only as new plants are completed or as present plants are greatly expanded.

Metals will remain in tight supply under pressure of government requirements. So far only $75 million worth have been bought for the strategic stockpile. Now it is proposed to spend $735 million in the next fiscal year.

This should strengthen the present 21½¢ price for copper, despite reduced demand for wire and cable. Aluminum has been increasing as a copper substitute. But producers will be hard put to meet aircraft demands if the plane program gets into high gear soon.

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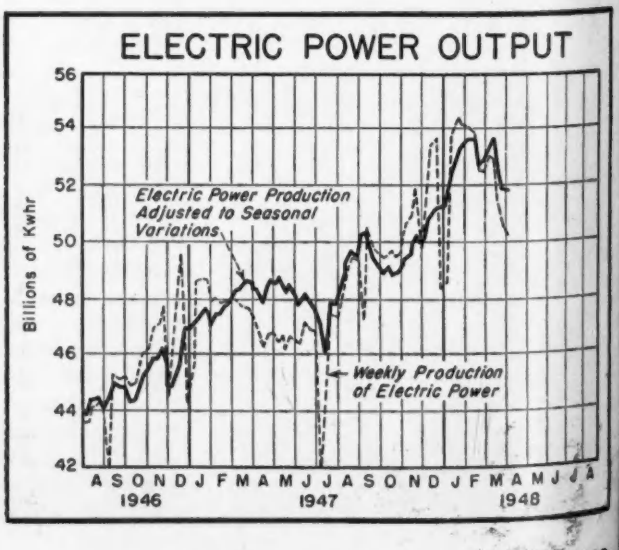
PROSPECTS OF CONTINUED good business, plus talk of war and inflation, have started a boom in the stock market. The volume of trading has been the heaviest in many months.

The improved tone of the market, the greater incentive to investors resulting from the tax cut, and the currently slow distribution of stocks from holding company portfolios should eventually make it easier for utilities to do equity financing than has been recently true.

So far, however, interest has centered in shares of heavy industries thought likely to participate most strongly in war or rearmament: aircraft, rail, oil, shipbuilding, mining and steel companies. While many such issues are 50 to 100% above their 1947-48 lows, the Dow-Jones utility stock averages are up only about 6%. Consequently, most utility financing is still taking the form of bond or preferred stock issues.